

WHAT IS CLAIMED IS:

1. An image taking apparatus, comprising:

a solid state image taking device which converts an optical image of a subject to be taken to analog video signals and outputs said analog video signals;

5 an analog to digital (A/D) converter which converts at a designated quantization bit number said analog video signals outputted from said solid state image taking device to digital video signals having said designated quantization bit number;

10 a digital signal processor (DSP) which applies an image process to said digital video signals outputted from said A/D converter at a designated signal processing bit number;

a displaying apparatus which displays said digital video signals outputted from said DSP; and

15 a recording medium which stores said digital video signals outputted from said DSP, wherein:

said designated quantization bit number at said A/D converter is variable.

2. An image taking apparatus in accordance with claim 1, wherein:

5 said A/D converter makes said quantization bit number in case that said digital video signals are displayed on said displaying apparatus smaller than the quantization bit number in case that said digital video signals are stored in said recording medium.

3. An image taking apparatus in accordance with claim 1, further comprising:

an interface (I/F) circuit which transfers said digital video signals outputted from said DSP to said recording medium in which said

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5 digital video signals are recorded, or transfers said digital video signals outputted from said DSP to an external apparatus, wherein:

10 said A/D converter makes said quantization bit number in case that said digital video signals are displayed on said displaying apparatus smaller than the quantization bit number in case that said digital video signals are transferred to said external apparatus through said I/F circuit.

4. An image taking apparatus in accordance with claim 1, wherein:

5 said signal processing bit number at said DSP is variable, and said signal processing bit number is made to be the same bit number of said quantization bit number at said A/D converter, in case that said digital video signals are displayed on said displaying apparatus.

5. An image taking apparatus in accordance with claim 1, further comprising:

a mode setting switch for setting an operation mode at said image taking apparatus; and

5 a system controller which generates a bit number converting signal for setting said quantization bit number at said A/D converter and said signal processing bit number at said DSP based on said operation mode set at said mode setting switch, and outputs said bit number converting signal to said A/D converter and said DSP, wherein:

10 said A/D converter sets said quantization bit number based on said bit number converting signal outputted from said system controller; and

said DSP sets said signal processing bit number based on said bit number converting signal outputted from said system controller.

6. An image taking apparatus in accordance with claim 5,
wherein:

said system controller, in case that said digital video signals stored in said recording medium are displayed on said displaying apparatus, stops operation of said solid state image taking device, said A/D converter, and said DSP.

7. An image taking apparatus in accordance with claim 5,
wherein:

said mode setting switch, in case that said digital video signals have been stored in said recording medium, selects whether said digital video signals stored in said recording medium are made to display on said displaying apparatus or not.

8. An image taking apparatus in accordance with claim 1,
further comprising:

a displaying apparatus driver for making said digital video signals display on said displaying apparatus by thinning out a part of said digital video signals outputted from said DSP.

9. An image taking apparatus in accordance with claim 1,
wherein:

said image taking apparatus is an electronic still camera.

10. An image taking apparatus, comprising:

a solid state image taking device which converts an optical image of a subject to be taken to analog video signals and outputs said analog video signals;

5 an analog to digital (A/D) converter which converts at a designated quantization bit number said analog video signals outputted

from said solid state image taking device to digital video signals having said designated quantization bit number;

10 a digital signal processor (DSP) which applies an image process to said digital video signals outputted from said A/D converter at a designated signal processing bit number;

 a displaying apparatus which displays said digital video signals outputted from said DSP; and

15 a recording medium which stores said digital video signals outputted from said DSP, wherein:

 said A/D converter provides plural A/D converting sections in which the quantization bit number of each of said plural A/D converting sections is different between them and is fixed, and either one of said plural A/D converting sections converts said analog video signals 20 outputted from said solid state image taking device to digital video signals, and outputs said digital video signals to said DSP.

11. An image taking apparatus in accordance with claim 10, further comprising:

5 a switching circuit which selects one of said plural A/D converting sections that has smaller quantization bit number than the other of said plural A/D converting sections which is selected at the time when said digital video signals are stored in said recording medium, in case that said digital video signals are displayed on said displaying apparatus, wherein:

10 said digital video signals outputted from said A/D converting section selected by said switching circuit are inputted to said DSP.

12. An image taking apparatus in accordance with claim 10, further comprising:

 an interface (I/F) circuit which transfers said digital video

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signals outputted from said DSP to said recording medium in which said
5 digital video signals are recorded, or transfers said digital video signals
outputted from said DSP to an external apparatus, wherein:

10 said switching circuit, in case that said digital video signals are
displayed on said displaying apparatus, selects one of said plural A/D
converting sections whose quantization bit number is smaller than the
other A/D converting section that is selected at the time when said digital
video signals are transferred to an external apparatus through said I/F
circuit.

13. An image taking apparatus in accordance with claim 10,
wherein:

5 said signal processing bit number at said DSP is variable, and
said signal processing bit number in case that said digital video signals
are displayed on said displaying apparatus is made to be the same bit
number of said quantization bit number at said A/D converting section
selected by said switching circuit.

14. An image taking apparatus in accordance with claim 10,
further comprising:

a mode setting switch for setting an operation mode at said
image taking apparatus; and

5 a system controller which generates an A/D converting section
changing signal for switching said switching circuit based on said
operation mode set by said mode setting switch and outputs said
generated A/D converting section changing signal to said switching circuit,
and also generates a bit number converting signal for setting said signal
processing bit number at said DSP based on said operation mode set at
10 said mode setting switch, and outputs said bit number converting signal
to said DSP, wherein:

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15 said switching circuit selects either one of said plural A/D converting sections based on said A/D converting section changing signal outputted from said system controller; and

said DSP sets said signal processing bit number based on said bit number converting signal outputted from said system controller.

15. An image taking apparatus in accordance with claim 14, wherein:

said system controller, in case that said digital video signals stored in said recording medium are displayed on said displaying apparatus, stops operation of said solid state image taking device, said A/D converter, and said DSP.

16. An image taking apparatus in accordance with claim 14, wherein:

said mode setting switch, in case that said digital video signals have been stored in said recording medium, selects whether said digital video signals stored in said recording medium are made to display on said displaying apparatus or not.

17. An image taking apparatus in accordance with claim 10, further comprising:

a displaying apparatus driver for making said digital video signals display on said displaying apparatus by thinning out a part of said digital video signals outputted from said DSP.

18. An image taking apparatus in accordance with claim 10, wherein:

said image taking apparatus is an electronic still camera.